

1 CLAIMS

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3 What is claimed is:

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5 1. A catheter balloon material formed from a blend of polymeric components, comprising:

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7 approximately 50-95% by weight of the total blend of a first urethane polymeric  
8 component, said first urethane polymer having a glass transition temperature in the range  
9 of -37 to 10 degrees C, and about 5-50% by weight of the total blend composition of a  
10 second urethane polymer component having a glass transition temperature in the range of  
11 20 to 31 degrees C.

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13 2. The catheter balloon material as recited in Claim 1, wherein using said blend in fabricating  
14 a catheter balloon results in a compliant balloon.

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16 3. The catheter balloon material as recited in Claim 1, wherein said blend has a blended glass  
17 temperature in the range of 22 to 26 degrees C.

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19 4. The catheter balloon material as recited in Claim 2, where said compliant balloon expands  
20 its nominal diameter equal to or greater than 20% when internal pressure is increased to its rated  
21 burst pressure.  
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1 5. A catheter balloon material formed from a blend of polymeric components, comprising:

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3 approximately 70-90% by weight of the total blend of a first urethane polymeric  
4 component, said first urethane polymer having a glass transition temperature in the range  
5 of 0 to 10 degrees C, and about 10-30% by weight of the total blend composition of a  
6 second urethane polymer component having a glass transition temperature in the range of  
7 55 to 70 degrees C.  
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9 6. The catheter balloon material as recited in Claim 5, wherein using said blend in fabricating  
10 a catheter balloon results in a semi-compliant balloon.

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12 7. The catheter balloon material as recited in Claim 5, wherein said blend comprises a  
13 blended glass temperature in the range of 26 to 42 degrees C.  
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15 8. The catheter balloon material as recited in Claim 6, where said compliant balloon expands  
16 its nominal diameter between 9 to 20% when internal pressure is increased to its rated burst  
17 pressure.  
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19 9. A catheter balloon material formed from a blend of polymeric components, comprising:

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21 approximately 15-30% by weight of the total blend of a first urethane polymeric  
22 component, said first urethane polymer having a glass transition temperature in the range  
23 of 0 to 10 degrees C, and about 70-85% by weight of the total blend composition of a  
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1 second urethane polymer component having a glass transition temperature in the range of  
2 65 to 100 degrees C.

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4 10. The catheter balloon material as recited in Claim 9, wherein using said blend in fabricating  
5 a catheter balloon results in a non-compliant balloon.

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7 11. The catheter balloon material as recited in Claim 9, wherein said blend comprises a  
8 blended glass temperature in the range of 43 to 90 degrees C.

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10 12. The catheter balloon material as recited in Claim 10, where said compliant balloon expands  
11 its nominal diameter less than or equal to 9% when internal pressure is increased to its rated  
12 burst pressure.

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14 13. A catheter balloon material formed from a blend of polymeric components, comprising:

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16 approximately 50-95% by weight of the total blend of a first urethane polymeric  
17 component, said first urethane polymer having a Shore D Hardness in the range of 45 to  
18 70, and about 5-50% by weight of the total blend composition of a second urethane  
19 polymer component having a Shore D Hardness in the range of 54 to 78.

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21 14. The catheter balloon material as recited in Claim 13, wherein using said blend in  
22 fabricating a catheter balloon results in a compliant balloon.

1 15. The catheter balloon material as recited in Claim 14, where said compliant balloon expands  
2 its nominal diameter equal to or greater than 20% when internal pressure is increased to its rated  
3 burst pressure.

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5 16. A catheter balloon material formed from a blend of polymeric components, comprising:  
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7 approximately 70-90% by weight of the total blend of a first urethane polymeric  
8 component, said first urethane polymer having a Shore D Hardness in the range of 55 to  
9 75, and about 10-30% by weight of the total blend composition of a second urethane  
10 polymer component having a Shore D Hardness in the range of 70 to 85.

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12 17. The catheter balloon material as recited in Claim 16, wherein using said blend in  
13 fabricating a catheter balloon results in a semi-compliant balloon.  
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15 18. The catheter balloon material as recited in Claim 17, where said compliant balloon expands  
16 its nominal diameter between 9 to 20% when internal pressure is increased to its rated burst  
17 pressure.  
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19 19. A catheter balloon material formed from a blend of polymeric components, comprising:  
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21 approximately 15-30% by weight of the total blend of a first urethane polymeric  
22 component, said first urethane polymer having a Shore D Hardness in the range of 70 to  
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85, and about 70-85% by weight of the total blend composition of a second urethane polymer component having a Shore D Hardness in the range of 75 to 87.

20. The catheter balloon material as recited in Claim 19, wherein using said blend in fabricating a catheter balloon results in a non-compliant balloon.

21. The catheter balloon material as recited in Claim 20, where said compliant balloon expands its nominal diameter less than or equal to 9% when internal pressure is increased to its rated burst pressure.